REMARKS

Rejection Under 35 USC § 103(a) over EP 1157825 in view of US 2002/0051931 (Mori)

Claims 1-2, 7-8, 10-13 and 23 were rejected under 35 USC §103(a) as allegedly obvious over EP 1157825 in view of US 2002/0051931 (Mori et al.). According to the Office Action, EP'825 teaches a method for the preparation of a printing plate comprising forming an oleophilic image on a substrate for a printing plate comprising a support having at least one hydrophilic layer on its surface, the oleophilic image being formed by inkjet printing an aqueous solution or aqueous colloidal dispersion of an anionic oleophilising agent on the surface of the support and drying the applied solution or dispersion, such that on drying the area of the surface to which the solution or dispersion was applied becomes lithographic ink-accepting (page 4, paragraph 31 of EP'825), characterised in that the substrate is metallic, polymeric or paper-based support (see page 11, paragraph 55 of EP'825), coated with a hydrophilic layer which comprises a crosslinked polymer (see page 121, paragraph 56 of EP'825). It is acknowledged in the Office Action that EP '825 does not teach that the crosslinked polymer is a cationic polymer.

According to the Office Action, Mori teaches a printing plate having a hydrophilic layer comprising a crosslinked cationic polymer (see page 6, paragraph 83). The Office Action alleges that it would have been obvious to one having ordinary skill in the art at the time of the invention to use a cationic polymer, as taught by Mori, in the hydrophilic layer of EP '825 in order to provide a lower cost, high quality printing surface. For at least the following reasons, Applicant traverses the rejection.

EP'825 is concerned with a method for the preparation of a lithographic printing plate by application onto a surface of an ink-jet receiver of a fluid comprising an oleophilising agent (see, for example, page 4, lines 21-24). According to EP'825, whilst it envisages embodiments of the invention in which the support is a flexible support (e.g. paper or plastic) provided with a crosslinked hydrophilic layer, the preferred embodiment is where a support having an anodised aluminium surface is employed (see page 11, line 58). The preferred embodiment is where the support is an oxidised metallic surface, especially an anodised aluminium surface and is presumably to provide for the particularly preferred embodiments of the invention (see page 4, lines 32-33) where the oleophilizing agent contains a

phosphorus-containing functional group capable of interacting with a metal oxide. All of the Examples in EP '825 utilise an anodised aluminium support. The skilled person in the art would be motivated strongly by the teaching of EP '825 to utilise an anodised aluminium support.

Mori is concerned primarily with the preparation of lithographic printing plates by heat-fusing thermally fusible particles (see, for example, the Abstract) in a coated support according to a desired image, in which a support is treated to make it hydrophilic by a coating method at low cost, to support principally computer to plate (CTP) systems (see, for example, page 1, paragraph 9). It is stated on page 3, paragraph 52 that the component layer preferably contains a light-to-heat converting material. The purpose of this is to enable infrared radiation, for example, to be used to fuse the thermally fusible particles that are to be incorporated into the substrate (such thermally fusible particles being described, for example, at page 8, paragraphs 100-103 and referred to throughout). Several methods of utilising thermally fusible particles to prepare lithographic printing plates are discussed in the Examples. It is stated in Mori (at page 6, paragraph 83) that an organic binder or additive may be incorporated into the component layer of the substrate and several preferred examples of the organic binder are described, including synthetic proteins, gelatins, polyvinyl alcohol, methyl cellulose, and others. None of these materials are cationic polymers. It is generally stated that cationic resins may be incorporated, as may a crosslinking agent, but they are not stated as preferred.

Claim 1, from which claims 2, 7, 8 and 10-13 depend, is directed toward a method for the preparation of a printing plate comprising forming an oleophilic image on a substrate for a printing plate comprising a support having at least one hydrophilic layer on its surface, the oleophilic image being formed by ink-jet printing an aqueous solution or aqueous colloidal dispersion of an anionic oleophilising agent on the surface of the support and drying the applied solution or dispersion, such that on drying the area of the surface to which the solution or dispersion was applied becomes lithographic ink-accepting, characterised in that *the hydrophilic layer comprises a crosslinked <u>cationic</u> polymer.*

It is respectfully submitted that a skilled person in the art in possession of the teaching of EP '825 would be strongly led to utilise an anodised aluminium substrate in preparing a lithographic printing plate according to the method of '825, whereby a lithographic printing plate is prepared by information-wise dispensing, by

ink jet printing, an oleophilising agent to a support. Even if he were to consider using a flexible support such as paper or plastic film, coated with a hydrophilic binder crosslinked with a crosslinking agent, according to an alternative, less-preferred mode of the invention of EP'825, to which mode there are no Examples in EP '825, it is submitted that he would still not be motivated to refer to a document such as Mori, which is concerned with preparing a lithographic printing plate by heat fusing heat fusible particles according to the desired information to be printed. There is no teaching in EP '825 that the methods and materials used in the preparation of a lithographic printing plate by heat fusing heat fusible particles (e.g. by laser imaging) would be equally applicable to a method of preparing a lithographic printing plate by application of an oleophilising agent to a printing plate substrate and indeed, it would intuitively not be the case, since one would expect such differing methods of preparing printing plates to have different requirements of the substrates used.

Even if the skilled person were to refer to Mori et al when considering the less-preferred embodiment of EP '825 in which a flexible support coated with a cross-linked hydrophilic binder is utilised, it is submitted that he would not be led by Mori to utilise a polymeric *cationic* binder as required by Applicants' Claim 1. Whilst Mori does disclose (at page 6, paragraph 83) that, in addition to other necessary components, "an organic binder or additives *may* be added", which binder is preferably hydrophilic, there is no direction to select a cationic polymer from the several classes of polymer disclosed, which mostly are not cationic. It is stated that cationic resins may be incorporated into the component layer, but again there is no direction to do so, nor any suggestion of the advantages that might arise from doing so. The Examples in Mori are directed to the methods of preparing a lithographic printing plate by heat fusing thermally fusible particles in an image-wise manner. None of the Examples in Mori utilise a cationic polymer.

Accordingly, it is submitted that the skilled person in possession of EP '825 would not be led to use a receiver bearing a cross-linked hydrophilic polymer layer and would not be motivated to refer to Mori, and even if he did would not be led by the teaching of Mori to utilise a cationic polymer in the method of preparing a lithographic printing plate described in EP '825. It is submitted therefore, that claim 1 is not obvious over EP 1157825 in view of US 2002/0051931.

It is further submitted that claim 23 is not obvious for the same reasons as discussed above and that claims 2, 7-8 and 10-13 are not obvious by virtue of their dependency on patentable claim 1.

For at least the above reasons, reconsideration and withdrawal of the rejection are in order.

Rejection Under 35 USC § 103(a) over EP 1157825 in view of US 2002/0051931 (Mori et al) and US 6,277,498 (Endo et al)

Claims 3-6 and 9 were rejected under 35 USC §103(a) as allegedly obvious over EP 1157825 in view of US 2002/0051931 (Mori et al.) and US 6,277,498 (Endo et al.).

According to the Office Action, EP '825 and Mori teach all that is claimed except that the cationic polymer comprises amino groups selected from primary, secondary, tertiary and quaternary amino groups, particularly selected from the group consisting of polyalkylenepolyamines and alkylated derivatives thereof, products of addition of alkylcarboxylic acids and polyalkylenepolyamines, products of addition of ketones and polyakylenepolyamines, products of addition of aldehydes and polyakylenepolyamines, products of addition of isocyanates and polyalkylenepolyamines, products of addition of isothiocyanates and polyalkylenepolyamines, products of addition of alkylene oxides and polyalkylenepolyamines and products of addition of polyalkylene block copolymers and polyalkylenepolyamines, or more specifically polyethyleneimine, and that the cationic polymer is present in an amount from 0.01 to 10 g/m^2 and the inorganic particulate material is present in an amount from 0.1 to 30 g/m^2.

According to the Office Action, Endo et al. teaches the cationic polymer comprises amino groups selected from primary, secondary, tertiary and quaternary amino groups, particularly selected from the group consisting of polyalkylenepolyamines and alkylated derivatives thereof, products of addition of alkylcarboxylic acids and polyalkylenepolyamines, products of addition of ketones and polyakylenepolyamines, products of addition of aldehydes and polyakylenepolyamines, products of addition of isocyanates and polyalkylenepolyamines, products of addition of isothiocyanates and polyalkylenepolyamines, products of addition of alkylene oxides and polyalkylenepolyamines and products of addition of polyalkylene block copolymers

and polyalkyenepolyamines, or more specifically polyethyleneimine as a cationic polymer resin, at column 10, line 54 to column 11, line 10 and that the cationic polymer and inorganic particulate material are present within the required ranges, at column 14, lines 63-66.

Furthermore, according to the Office Action, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the cationic resins of Endo with the invention of EP 1157825 in order to provide an enhanced printing surface. For at least the following reasons, Applicant traverses the rejection.

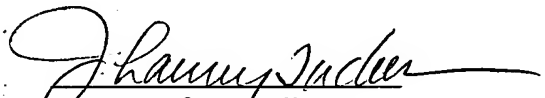
Firstly, it is submitted that claims 3-6 and 9 are not obvious by virtue of their dependency on patentable claim 1, arguments in support of which assertion are set out above. With regard to the further features that the Examiner rejects as obvious in view of Endo et al., we offer the following comments.

Endo et al. is concerned with standard ink-jet receivers and not with lithographic printing plates. The requirements for each type of system are quite different and one would not expect the outcome of a change in one system to necessarily tally with that of the other. There is no motivation for the skilled person to combine the disclosures of EP'825 and Endo et al. Even if the skilled person were to refer to Endo et al., it would be clear that the list of cationic resins referred to at column 10, line 54 to column 11, line 10 concerns is for enhancing the water resistance of the printed ink images (see column 10, lines 37-42). The present invention is concerned with a lithographic printing plate, not with printed ink-jet images and so the skilled person would not be led to utilise the cationic resins said to have a beneficial effect of water resistance in an ink-jet receiver according to Endo et al., in a lithographic printing plate, which is to be used to generate printed images.

For at least the above reasons, reconsideration and withdrawal of the rejection is in order.

In view of the foregoing remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited.

Respectfully submitted



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